AMENDMENTS

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 37. (canceled)

38. (currently amended) An ball grid array package, comprising:

a semiconductor chip/die affixed to a ball grid substrate; the ball grid substrate having a series of balls; and

a heat spreader mounted to the semiconductor clip/die and the ball grid substrate opposite the series of balls; the heat spreader having a pattern of slots, not completely piercing the heat spreader, therein, wherein the pattern of the slots comprises a pattern selected from the group consisting of: circular pattern, a radiating pattern, a rectangular pattern, a concentric circular pattern, or a concentric octagonal pattern.

39. (original) The structure of claim 38, wherein the semiconductor chip is a silicon semiconductor chip or a germanium semiconductor chip.

40. (original) The structure of claim 38, wherein the semiconductor chip is a silicon semiconductor chip.

41. (original) The structure of claim 38, wherein the balls are comprised of 63Sn37Pb, 96.5Sn3.5Ag, 5.5Sn3.8Ag0.7Cu or 96.2Sn2.5Ag0.8Cu0.5Sb; and the heat spreader is comprised of copper, aluminum, chromium plated on copper, chromium plated on aluminum or nickel plated on copper.

42. (original) The structure of claim 38, wherein the balls are comprised of 635n37Pb or 96,SSn3.5Ag; and the heat spreader is comprised of nickel plated on copper.

43. (original) The structure of claim 38, wherein the balls are comprised of 63Sn37Pb.

44. (original) The structure of claim 38, wherein the balls are comprised of 96.5Su3.5Ag.

45. (original) The structure of claim 38, wherein the semiconductor chip/die is a silicon semiconductor chip/die and has a coefficient of thermal expansion of from about 2.5 to 3.5; and the heat spreader has a coefficient of thermal expansion of from about 10 to 25.

46. (original) The structure of claim 38, wherein the semiconductor chip/die is a silicon semiconductor chip/die and has a coefficient of thermal expansion of about 2.8; and the heat spreader has a coefficient of thermal expression of about 17.0.

47. (original) The structure of claim 38, wherein the semiconductor chip/ die is a germanium semiconductor chip/die and has a coefficient of thermal expansion of from about 5.5 to 6.5; and the heat spreader has a coefficient of thermal expansion of from about 10 to 25.

48. (original) The structure of claim 38, wherein the semiconductor chip/die is a germanium semiconductor chip/die and has a coefficient of thermal expansion of about 6.1; and the heat spreader has a coefficient of thermal expansion of about 17.0.

49. (currently amended) The structure of claim 5838, wherein the slots penetrate the heat spreader from about 25 to 85%.

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50. (original) The structure of claim 38, wherein the slots penetrate the heat spreader from about 50 to 75%.

51. (previously presented) The structure of claim 38, wherein the pattern of slots include rows spaced apart from about 1.0 to 5.0 mm; the slots comprising each row are spaced apart from each other from about 0.5 to 2.5 mm.

52. (previously presented) The structure of claim 38, wherein the pattern of slots include rows spaced apart from about 1.5 to 2.5 mm; the slots comprising each row are spaced apart from each other from about 0.7 to 1.5 mm.

53. (cancelled)

54. (cancelled)

55. (original) The structure of claim 38, wherein the ball grid array package is a super ball grid array package, an HSBGA package or an HSFCBGA.

56. (original) The structure of claim 38, wherein the ball grid array package is a super ball grid array package.

57. (new) A ball grid array package, comprising:
a semiconductor chip/die affixed to a ball grid substrate; the ball grid substrate having a series of balls; and

a heat spreader mounted to the semiconductor clip/die and the ball grid substrate opposite the series of balls; the heat spreader having a pattern of slots, not completely piercing the heat spreader, therein, wherein the slots penetrate the heat spreader from about 50 to 75%.

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